ART. XV.—*Who Invented the Obstetrical Forceps? Was the Instrument in use before the time of the Chamberlens?*

"*The Chamberlens and the Midwifery Forceps, Memorials of the Family and an Essay on the Invention of the Instrument,*" by J. H. AVELING, M.D., F.S.A. 8vo. pp. 230. London: J. & A. Churchill, 1882.

THE volume under review, is the result of ten years of earnest search on the part of its author, who has evidently spared no pains to make his work thorough and complete. We can fully appreciate such labour, and have no doubt, that aside from its tediousness, it at times afforded Dr. Aveling much real pleasure, especially when he unravelled the mystery of the three Peters and two Hughs, and discovered who was *the Peter* that invented the forceps, and that he was not the Peter to whom the honour has generally been awarded. The Chamberlens, in whose family the secret of the fenestrated and adjustable obstetrical forceps was kept for four generations, consisted of seven "men-midwives," viz.: Peter I., Peter II., Peter III., Hugh I., Paul, John, and Hugh II., to whom the exclusive use of the instrument was a mine of wealth. We propose to give a *résumé* of the work under review, so as to present the leading points of interest in the lives of these seven men, the descendants of William Chambrelein,[1] and their connection with the use of the instrument in their practice of obstetrics, and to examine the historical claims setting forth its much earlier existence.

1. *William "Chambrelein,"* the progenitor of the family in England, was a Huguenot, who with his wife Genevieve and three children, Pierre, Simon, and Jeanne, left Paris in the year 1569, to escape the persecutions under Charles IX., and sailed over from France to England, landing at Southampton, where his name is found recorded under date of July 3d of that year, in the register of the church of St. Julian. A fourth child, Jacques, was born soon after their arrival; and in 1572 a fifth, also a son, who, strange to say, and to the confusion of his subsequent history, was named Peter,[2] whom we shall call Peter II., preferring the numeral distinction for its simplicity. William Chambrelein is presumed from some remarks made by his descendants to have practised medicine, although there does not appear to be any positive evidence on this point. As he was mentioned in 1596 as *the late William,* he died prior to that period.

2. *Peter I.*, or the elder Peter, of William's two sons of the same name, was, as has been stated, born in France, and went to England when a little boy. In one sense he was the Peter the Great of the family, as he is "the uncle" referred to by Smellie as the inventor of the forceps, although overshadowed by the higher position, and greater reputation of Peter III., son of Peter II. his younger brother. Peter I. was not educated as an M.D., but became one of the order of Barber Surgeons, who were not permitted to prescribe medicines under penalty of fine and imprisonment, the violation of which law got him into trouble, and sent

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[1] There is reason to believe that the original name of the family was *Chambrelan*, spelled as above, in the old French, and not Chambellan (in English Chamberlain). We find no less than eleven terminals to the name in history, viz.: *brelein, brelan, brelen, bellan, berlaine, berlayne, berlane, berlan, berlin, berlyn,* and *berlen.* The last was adopted by Peter III., and continued by his descendants.

[2] We know of three families in Philadelphia, having each two brothers of the same name, distinguished only by their middle initials.

him on one occasion for a short time to Newgate. Midwifery was regarded as a surgical work, although requiring a separate license, and the title of "Surgeon and Man-midwife" was a common, but a much less honourable one, than that of Doctor. Peter I. was enrolled as a Barber Surgeon prior to 1598, and appears to have soon acquired a good practice. He seems not to have been able to resist the temptation to prescribe, and was frequently under accusation for doing so. He was known in the profession as "Petrus Chamberlaine Senior," and resided in Mark Lane, London, having removed from Southampton between 1588 and 1596. In 1614 he is recorded as Surgeon to the Queen (Anne), who presented him with a diamond ring; he was also surgeon to Henrietta Maria, wife of Charles I., and attended her in labour in 1628. He died in December, 1631, having resided in England 62 years, and was probably over 70.

3. *Peter II.* or "the younger" was also, as stated, the son of William, and was born on February 8, 1572. Like Peter I. he became a Barber Surgeon, and is presumed to have been admitted to the Company about 1596. He became also a man-midwife, receiving his license from the Bishop of London. Like his elder brother, he was frequently in trouble with the College of Physicians for having administered medicines to his patients, and was fined for so doing. The two brothers were largely dependent for practice upon the midwives of London, who called them in to deliver difficult cases, and with a view to an increased advantage, endeavoured to have them incorporated and made a society, with arrangements for instruction in anatomy and other branches. Peter II. had eight children, the eldest of whom was Peter III., known for distinction as "Dr. Peter," being an M.D. Peter II. died in August, 1626, at the age of 54, five years earlier than his elder brother.

4. *Peter III.*, known usually as "Dr. Peter Chamberlen," was the son of Peter II., and nephew of Peter I., and was born on May 8, 1601. Of the three Peters he is the best known in history, and his likeness has been preserved in an engraving executed in 1658, at the age of 57, and erroneously marked "Paul Chamberlin, M.D." who was at that date a young man of 23. Peter III. had the advantages of a collegiate education at Oxford and Heidelberg, and studied medicine at Padua, graduating at the age of 18. He continued his medical course subsequently at Oxford in 1620, and Cambridge in 1621, and became a Fellow of the College of Physicians of London in 1628, by which time he had already acquired a reputation as a medical practitioner at home and on the Continent. When thirty years of age, he was alone in the secret of the forceps, his father and uncle having died. His reputation became so extended that the Czar of Russia wrote to Charles I., offering to take him into his service, but the doctor declined. He became in the course of his life, Physician Extraordinary to King James and Queen Anne, Charles I. and Queen Mary, Charles II. and Queen Katherine, and to some foreign Princes. Like Peter II., his father, and Peter I., his uncle, he made a futile attempt to incorporate the midwives of London (in 1634), desiring to make use of them for his own advancement and gain, and to be appointed a governor over them. This scheme was resisted on the part of the midwives and the petition was denied him, it being claimed that he had tried through them to monopolize the work of delivery in their difficult cases, and that he was in the habit of making bargains, with unreasonable demands for large fees, before he would undertake to deliver the suffering patient; in fact it was even claimed against him, that parties

had perished for want of help whilst he was bargaining for a high reward, and this especially among the poor, who found it difficult to meet his unreasonable demands. These charges brought from his pen, in 1647, a defence entitled, "*A voice in Rhama; or the crie of women and children, echoed forth in the compassions of Peter Chamberlen, Doctour in Physick, Fellow of the Colledge of London, and one of his Majesties Physicians Extraordinary*," in which he sets forth his claims to superiority as a man-midwife on account of the possession of a secret process of delivery, and denies that he was in the habit of charging as had been claimed to his discredit. The following extracts will be found of interest to the profession.

After recounting his own early history and educational advantages, he says:—

> "Then fame begot me envie and secret enemies, which mightily increased, when *my father added to me the knowledge of deliveries and cures of women.*" In his defence against the claim of exaction he says: "I seldom bargained beforehand, or not above twentie times when exceedingly animated by some fresh injuries and grosse abuses; although I hold not bargains unlawful, so long as the labourer is worthy of his hire." . . "I never arrested any for what was due, whether by bargain, promise, or otherwise; although in all abused. I never demanded the full value of the operation, if equally compared with other matters of price, or other great operations of Chyrurgery." . . "That operation merits £100 as well as other cures or operations, according to the value of lives and estates. Yet for one who hath paid me £10, I have delivered 100 for nothing, and as many for lesse than nothing; such as thought it a point of wisdom to save their purse and pay me with lies and scandals, insufferable scandals, and so frequent till they caused me abhor the work itself." . . "To prevent both discontent on the one side and dishonestie on the other, I resolve (as others use to do, and as they have hitherto falsly reported of me) to afford my labours to none but such as trust me with their money before I trust them with my art, which I shall afford at £10 to any that are reputed worth £1000, and in lesser proportion to such as shall bring with them the testimonie of their Minister and Neighbours of their meaner condition: and if the certificat rank them among the poor, I shall as freely as ever give them assistance. But if any (except kindred, friends, patients, or Ministers) addresse themselves unto me without former conditions, let them not think it strange if I turn my former affabilities into future denyals, and that I lay my self lesse open to affronts in that kind than formerly." "The Draper is not bound to find cloth for all the naked, because he has enough in his shop, nor yet to afford it at the buyer's price. The Lawyer is not obliged to spend his voice and spirits for all the injured in *forma pauperis*, because he pleads well, and shall be heard. Acts of charitie are more due from kindred than from strangers. When a husband of sufficient means shall not think his wife's or child's life worth £10, I am not bound to bestow that on them which is of more value." . . "In summe, I am wholly tired out with the injuries, vexations, and losses of the businesse."

Failing in his endeavours to obtain an act incorporating the midwives of London, either under the direction of himself or entirely independent of him, he next turned his attention to the establishment of public and private baths, and the obtaining of an ordinance giving him the exclusive right of making baths and bath-stoves for fourteen years. This ordinance passed the House of Lords in 1649, but was rejected by the House of Commons, after it had been submitted to the College of Physicians and returned with its disapproval. This act created a great deal of discussion, *pro* and *con*, and finally resulted in such a condition of opposition between Dr. Chamberlen and the college that he was at length dismissed from his fellowship, "for repeated acts of contumacy," by a vote of the body, on November 23, 1649.

We next find the Doctor engaged in advocating some wild Utopian ideas for the benefit of his country and its people, and in writing numerous religious papers setting forth his peculiar and changing views upon theological questions. These he disseminated in pamphlet form, and thereby rendered himself unpopular in the community, provoking his opponents to the production of many caustic and ridiculing answers, which have been preserved as curiosities of the times in which he lived. He was also given to disputing in public, and earned the reputation of being a fanatic, if not bordering upon lunacy.

In February, 1661, Dr. Chamberlen received the appointment of Physician-in-Ordinary to King Charles II. In 1665–66 he was busily engaged in endeavouring to secure patents in several countries, giving out that he had a plan by which vessels could be propelled within two points of the wind, if not made to sail full against the wind. He applied through his son Hugh, as he was then in Holland, for a patent from his own country, and received an answer to the effect that, when he demonstrated the possibility of his plan, his petition would be granted. Strange as it may appear, he succeeded in obtaining patents for his "*invention of navigating with all winds, in a straight line,*" from France, Venice, and the United Netherlands, without demonstrating the practicability of his idea. Failing through his son, he returned to England and advocated his case in person; and although he positively, as before, declined to exhibit the *sine quâ non*, the government granted him the patent for the time asked, and subsequently enlarged it so as to include the manufacture of coaches, wagons, carts, and ploughs, to be driven by the wind. This whole crazy project, as might be expected, failed; for, although the King and Parliament were willing to let him build the ships, the dupes to aid him with the requisite funds could not be obtained. The reviewer has seen the inception of insanity exhibit itself in a physician, now long resident in an asylum, in a somewhat parallel project, by which he anticipated being able to realize a million of dollars. Dr. Peter Chamberlen appears to have had insane freaks, and then to have recovered from them, although at all times more or less eccentric in his ideas. Had he been of stable intellect, his next project might have been made a success, as it has been since by Isaac Pitman; for he conceived the idea of writing by sound, and obtained a patent on Nov. 8, 1672, for "his new invention of writing and printing true English, whereby better to represent to the eye what the sound doth to the ear, than what is now practised." This, like others of his schemes, seems to have ended in its conception; how he was to carry out the idea by the pen or type remains a mystery.

Dr. Aveling reproduces in his work many of the singular writings of this peculiar, if not at times insane, author, which are curiosities of thought and composition, and reveal the character of the man, and his singular ideas upon religion, political economy, etc. etc. He died on December 22, 1683, at Woodham Mortimer Hall, near Malden, in Essex, England, at the age of 82 years.

This Woodham Mortimer Hall is presented by the author as the frontispiece of his book, and deserves a special notice, as it is intimately connected with the discovery and subsequent revelation of the character of the instruments used by the Chamberlens in their obstetric practice. This residence remained in the possession of the descendants of Peter III. for thirty-two years after his death, or until 1715, and the secret closet containing his instruments was not discovered until almost a century after it was sold by his son Hope, or until 1813, of which more hereafter.

Peter Chamberlen III. was twice married, and had fourteen sons and four daughters, forty-five grandchildren, and eight great-grandchildren; of whom three sons, Hugh, Paul, and John, two daughters, twenty grandchildren, and six great-grandchildren survived him. Hugh, Paul, and John were all obstetricians at the time of their father's death, and the first two were then respectively (about) 53 and 48 years old; John was a little younger.

5. *Hugh Chamberlen I.* was, as stated, the son of Peter III., and, being his first child, is computed to have been born about the year 1630. Although designated by the title of Doctor, no evidence has been discovered of his having received the degree of M.D., and, in fact, little is known of his doings until when he must have attained the age of thirty. He was married on May 28, 1663, and had three sons and a daughter, the eldest son of his own name succeeding him as heir to his secret.

The great obstetrical event of Hugh Chamberlen senior's life was his attempt to deliver a woman in Paris having a deformed pelvis, on August 19, 1670. This woman was a dwarf of 38, who had been in labour eight days, and her waters had been broken a week. Mauriceau, who had her in charge, did not wish to perform the Cæsarean operation, believing that it would be certainly fatal, and hearing of Hugh Chamberlen being in Paris, and knowing of the claims of this family of accoucheurs, invited him to see the case. Hugh expressed surprise that Mauriceau, whom he characterized as the most skilful obstetrician of Paris, was not able to deliver the patient, and promised to do so in "half a quarter of an hour." After labouring more than three hours, only stopping to take breath, he abandoned the case. The woman died in twenty-four hours, and an autopsy showed that the uterus was torn and pierced in several places by his instruments. Chamberlen, according to Mauriceau, had then been six months in Paris, having gone there in the hope of making his fortune, and had proposed to sell his secret mode of delivery for 10,000 crowns. Disgusted with his defeat, he returned in a few days to London, taking with him a copy of Mauriceau's Midwifery, which he translated and published in 1672, and the preface of which he evidently designed as an advertisement of his special ability to deliver without hooks, so as to preserve fœtal life in difficult cases.

In 1673, Hugh, at the request of his father, was associated with him as Physician-in-Ordinary to King Charles I., and in September, 1861, he received the honour of knighthood. He was admitted a Fellow to the Royal Society in 1685. In a little manual, which he published this same year, his name appears as "Hugh Chamberlain," with no M. D. to it. In 1688, suit for malpractice, in the excessive use of emetics, purgatives, and the lancet, in the case of a pregnant woman, was brought against him before the College of Physicians, and he was fined £10.

For nearly ten years of his life Hugh Chamberlen's attention was given to a project for establishing a Land Bank, *i. e.*, a bank to advance money on the security of landed property, and much of his time was taken up in advocating it by pen and tongue. As first proposed, it was a wild scheme for issuing a superabundant paper currency upon a fractional basis of security; but, as finally granted by Parliament, the bank was less objectionable. In 1699 the whole affair collapsed for want of funds, and Chamberlen retired to Holland, according to one statement, but most likely to Scotland, for from 1700 to 1702 he was advocating the advantages of its union with England, and published a volume on the subject. Where he died and when, have not been ascertained. He practised his profession for some years in Amsterdam, sold his secret to Roonhuysen, who sold it again to others, and thus it gradually became known in Holland, among those who were willing to pay for the information.

6. *Dr. Paul Chamberlen* was the second son of Peter III., and was born on October 22, 1635. The incidents of his early life are unknown, and where he graduated in medicine has not been ascertained; he was a man-midwife, and used the forceps, and was the inventor of the "anodyne necklace," recommended to be worn by teething children and by women in labour for the diminution of suffering. Paul was, in fact, a complete charlatan, and died probably in 1717, as his will was proved by his widow on December 19th of that year. He left a son of his own name.

7. *Dr. John Chamberlen* was the fourth son of Peter Chamberlen III., and, like his brothers and father, practised midwifery, and possessed the family secret. He is believed to have been an M.D., but where he received his diploma is unknown. He died probably at the close of 1699, as his will was proved by his widow on January 6, 1700.

8. *Hugh Chamberlen II.* was the eldest son of Hugh Chamberlen I., and was born in 1664. He took his degree of A.M. in Trinity College, Cambridge, in 1683, and graduated in medicine on October 8, 1689. On April 2d, 1694, he was admitted a Fellow of the College of Physicians, London, and was subsequently elected a Censor in 1707, 1719, and 1721; but his health failing, he was obliged to resign the position in 1722. He died of gout in the stomach on June 22, 1728, at the age of 64, having long been an invalid.

Dr. Hugh II. lived in a fashionable street in London, was a gentleman in his instincts and habits; married into influential families, having had three wives, and practised among the higher classes, chief of which was the family of John Sheffield, Duke of Buckingham, who with his Duchess held him in high esteem, so much so that he spent his last days at Buckingham House, was buried from it, and the Duke erected to his memory, in Westminster Abbey, a handsome cenotaph, upon which is inscribed a long eulogium setting forth his talents and virtues, prepared by another warm friend and admirer, Bishop Atterbury, of Rochester. The Doctor had three daughters, two of whom became heads of families of influence, but no sons. Of all the noted members of the Chamberlen succession, he led the most quiet, refined, and uneventful life, being neither a polemic, a noisy philanthropist, a fanatic, or a lunatic. He seems to have enjoyed a reputation as a kind and skilful physician, being particularly commended for his management of obstetric cases, the diseases of children, and the maladies of delicate subjects. He was the last of the Chamberlens to enjoy the exclusive use of the family secret.

How did the secret of the forceps finally become known? This is a question of much scientific interest, but one which the reviewer after a very careful research, can only answer in a measure. After the signal failure of Hugh Chamberlen I. at Paris, in 1670, already mentioned, and that of his Land Bank in 1699, he settled in Amsterdam, after having been in Scotland, where as stated he published in 1700 and 1702 political papers. The sale of the secret of his forceps to Roonhuysen is generally dated at 1688, which is probably an error, as he was then in England, and for a long time afterward, fully engrossed with practice, and advocating the formation of his Land Bank. After he parted with his secret to relieve his necessities, it was sold and resold as such among the Hollanders for many years. The first revelation of the plan of delivery openly made for the benefit of science and humanity was that of Prof. Palfyn, of Ghent, who being in Paris in 1721, to publish his work on anatomy, exhibited before the Royal Academy of Sciences an arrangement of parallel round-handled non-fenestrated vectes, there amusingly denominated, "*the hands of Palfyn.*" The Professor was evidently not fully in the secret; he had obtained the idea, possibly from a midwife,[1] but not having seen the instrument, did not know of the fenestræ, and how to make the blades independent and antagonistic at will; so he bound the handles together, after having introduced the blades separately. Although the idea then became known in France, the real secret was evidently not in the exclusive keeping of the Chamberlens in England at the date given. *The first publication in England which gave pictures of the forceps* was the posthumous work of Mr. William Giffard, surgeon and man-midwife of London, published in 1734, by Mr. Edward Hody. In this work on midwifery, is the report of a case in which he used his "*extractors*" in 1726. To Mr. Edmund Chapman, of South Halstead, Essex, is generally awarded the priority, but his little book of 1733 contains no illustrations, these having been supplied in the second and larger edition of 1735, after the appearance of Giffard's Midwifery, and the paper of Butler, referred to in foot-note No. 1, who condemned him for not having done so. To Chapman, however, is due the credit of having mentioned the kind of instrument which constituted the secret of the Chamberlens, before any one had *openly* published it. In his book of 1733, we find the following: "there are several different sorts of forceps," . . . "all far from being equally proper; and great regard is to be had to their form." . . . "The secret intimated by Dr. Chamberlen" (Hugh I.), "by which his father, two brothers and himself, saved such children as presented with the head, but could not be born with natural pains, was, as is generally believed, if not past all dispute, the use of the forceps, *now well known to all the principal men of the profession, both in town and country.*" Chapman must even then (1733) have somehow been long in the secret, as he says: "For *many years* my forceps happened to be made of so soft a metal as to bend or give way, or suffer some alteration in their curve. They were made as usual with the screw fixed to one part or side of them. These I used *for some years*, but they often happening to slip off sideways, as before mentioned, my opinion of the instrument was so much lessened, that for *many years* after, I used it but seldom, and even *not once for the space of ten years.*" Put all these expressions of time together, and Mr. Chapman must have used the forceps long before the date (1726) given in the case of Mr. Giffard, of London. William Sermon, in his "English Midwife," 1671, in speaking of the delivery of the fœtus after its death, mentions as extractors, "the crotchet, hooks, *tongs*, and other instruments." Query, what did he mean by the term "*tongs*"? Some have supposed that from this, he may have known of the forceps; but there were instruments then in use for the purpose mentioned, that were quite as well entitled to this name, as the forceps. Had he been at that time in the secret, he would, in all probability, have made capital out of it, in writing his manual for midwives, as it was considered quite legitimate in his day to take every advantage of a discovery, and every physician "was said to have his secret."

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[1] The *tire tête*, as Palfyn called his instrument, was afterward claimed as his own by Le Doux, a surgeon of Ypres. It was not known to the world generally until published by Butler in the Edinburgh Med. Essays and Observations for 1733.

Another claimant for the early use of the forceps in England is found in Mr. Drinkwater, surgeon and man-midwife of Brentford, who commenced practice in 1668, and died in 1728, and who left a pair of forceps which came into the possession of Dr. R. W. Johnson, who mentions it in his Midwifery, published in 1769. The instrument resembled those of Chapman and Giffard, except that the hooks of the handles were bent outward, as in those of the present day. As Mr. Drinkwater was an octogenarian when he died, it is probable that he had been in the secret for some years. Among the many Chamberlens, it appears that it was impossible to keep the secret a purely family one beyond a certain period. When the last of the Peters died, and his three sons held the secret, there must have been a leak somewhere. Possibly death may have given up a pair of forceps, as in the Drinkwater case.

The Discovery of the Chamberlen Instruments at Woodham Mortimer Hall, in 1813.—This has often been described, since Mr. Cansardine presented them to the Royal Medical and Chirurgical Society of London, in 1818, but the account given by Dr. May in 1861, and repeated in Dr. Aveling's book, is the most complete. It appears that in 1813, the house was in the care of Mr. Codd, who, with his wife and her mother, Mrs. Kemball, resided there, the last being on a visit. Mrs. Kemball was in a closet over the entrance porch, and noticing the appearance of a cork or small disk of wood inserted in the floor, and again a second one at a distance, investigated their use, and found them to be covers for screw-heads. This led to the discovery of a trap-door with small sunken hinges, upon the opening of which a cavity between the floor and ceiling was revealed, containing among other articles of the Chamberlens their obstetric instruments, consisting of four pairs of forceps of different patterns, three vectes, three crotchets, and three fillets, formed chiefly of whalebone. Dr. Aveling very naturally concludes that these belonged to the three Peters Chamberlen, the instruments of Dr. Peter's father and uncle having been hidden with his own, during his lifetime or later, to secure the keeping of the secret. To account for there having been four pairs of forceps, he remarks that one was so rudely constructed "as to be scarcely practically useful." A testament found, bore in writing the date of 1695.

As an evidence that Peter III. was not the inventor, Dr. Aveling remarks: "He was gay and extravagant in his early professional life, and had not the keen incentives of hardship and want to sharpen his intellect and whet his invention. Besides, we have evidence that he was very early in life in possession of the secret which gave him a superior position as an obstetrician. The midwives, in their petition against his scheme for incorporating them—an attempt which he made in imitation of his father—spoke of him as being a young man." He was then 33. An anonymous writer at this period said: "His father, for aught I ever heard, was a good honest barber-surgeon, and by his knack in midwifery got plentiful estate, which with *his art he left to this young gentleman.*" By the time he was thirty-three he had first secured a good practice, then lost much of it, besides wasting a large portion of his patrimony. Another evidence that the invention long preceded his day is found in the fact that when his father in 1616, at which date he, the son, was but a boy of 15, appeared before the College of Physicians of London to advocate the passage of the act for incorporating the midwives of the city, the petition for the same having been referred to the College by the King and

Parliament; he, the father, gave offence to that learned body by presuming to claim that *he and his brother* (who were only barber-surgeons), *and none others, excelled in the management of difficult cases of labour*, and he was asked whether, in spite of his boast, "any member of the College would not answer and judge more correctly than any obstetric surgeon whatever."

It is evident that Peter II., who was then 44, must have relied upon some secret advantage known only to himself and Peter I. for this claimed superiority as accoucheurs, or he would not thus have risked their future success in practice, by exciting the ire and jealousy of the Royal College. The fact that he was able at 54 to leave houses and landed property to his heirs shows that he was also able from some cause to secure obstetric practice in spite of the disadvantages under which he must have laboured from professional opposition. It might here be supposed that Peter II. was the inventor of the forceps, and imparted the secret to his elder brother, Peter I., but for the fact already mentioned, that Smellie, who wrote in 1752, gave the credit to the uncle of Peter III., which was of course Peter I., known as "Petrus Senior." The true inventor was then Pierre Chambrelan, who was born in Paris somewhere about the year 1560.

It seems almost incredible at this day that the secret could have been kept for so many years; but it will be noticed by the readers of Dr. Aveling's book that no hint is given by any of the family that they used an instrument, or even ventured to call it by name. Had they ever spoken of *the forceps*, it is not likely that its peculiarity of form and articulation could long have been kept in the family as their exclusive advantage. No doubt the chief point in the invention was but the thought of a moment, after which the instrument might have been brought to much greater perfection but for the fact that the desire for secrecy made it imperative that the mechanical work should be done at home. The grand secret was the means of introducing the blades separately, and then uniting them across each other for action. Had the idea of separate introduction once for a moment entered the mind of Rüeffe in 1554, he would have invented the forceps by changing his own fixed instrument into one of independent blades.

The work of Dr. Aveling is a monument of persevering labour. It contains transcripts of wills, documents, and other writings of a curious nature, which are well worth the attention of those who take an interest in antiquarian matters, whether they are in the medical profession or out of it.

Were forceps used in the extraction of living fœtuses before the time of the Chamberlens; and if so, when?

Having carefully examined this subject *de novo*, I am prepared to answer the question in a measure satisfactorily. The claim of priority has been made by obstetrical writers, for three authors, whose cases will be investigated, commencing with the latest, viz.:—

1. In the original edition of the work by Jakob Rüeff, entitled *De Conceptu et Generatione Hominis*, published in Zurich in 1554, we find a wood-cut, representing a pair of forceps, which some have presumed were designed to grasp the fœtal head and deliver a living child. This instrument resembled a pair of lithotomy forceps, and was evidently a cranioclast. The blades were riveted together at the joint, were long, slightly curved and hollowed, and devoid of serratures. Such an instrument could

not possibly be introduced, so as to include within its grasp the fœtal head. In fact, Rüeff distinctly states, that it was intended to be used upon the dead fœtus.

2. In the work of Albucassis (Kalaf-Ebn-Abbas-Abu'l-Kasem), are pictures of two pairs of long pincers, having semiannular jaws; one pair armed with teeth, the other plain. The latter has been claimed to have been designed to seize the head of and deliver a living child; but a careful examination of its form, mechanism, and proportions, will show that it could only have been used as a craniotomy forceps. With a fixed joint, such an instrument could never be introduced so as to grasp the head; in fact, Albucassis calls it "a form of crusher for breaking up the head of the fœtus." Abu'l-Kasem was born at Zehera, near Cordova, in Spain, and is said to have practised for part of his life in Arabia. His book was written in Arabic, and contains a large surgical armamentarium, among which are the forceps named. He does not appear to have heard of the form of forceps spoken of by Avicenna, although conversant with the works of many of his predecessors. According to Sprengel's *History of Medicine*, he died A. D. 1122; other historians have dated his death at 1110.

3. In the work of Avicenna (Al-Hassain-Abou-Ali-Ben-Abdallah-Ebn-Sina), surnamed the "Prince of Medicine," we have, however, the evidence that there was a form of forceps designed to deliver the living fœtus. The pattern of this instrument has not been presented, either in the text or an illustration, and we are not informed as to the mode of its introduction; but sufficient, although a very unsatisfactory evidence exists, to show that there was such an extractor in use. Ebn-Sina was born in Arabia, near Bokhara, A. D. 980, and died in 1036 or 1037. He wrote a voluminous work upon general medicine in his native tongue, which was translated into Latin, from which we make the following quotation, which may be found in a number of obstetrical treatises, but without the heading or translation:—

> "De regimine ejus cujus partus fit difficilis causa magnitudinis fœtus."
>
> "Oportet[1] ut inveniat obstetrix possibilitatem hujusmodi fœtus, quare subtilietur in extractione ejus paulatim; tunc si valet illud in eo bene est; et si non liget eum cum margine panni et trahat eum subtilitur valde cum quibusdam attractionibus. Quod si illud non confert administrentur forcipes et extrahatur cum eis. Si vero non confert illud, extrahatur cum incisione, secundum quod facile fit, et regatur regimine fœtus mortui."

Of the management of her, whose delivery is made difficult by reason of the greatness of the fœtus.

It behooves that the midwife shall find out (or effect) a possibility of this kind of fœtus, wherefore let it be by little and little (gradually) done finely (finessed) in its extraction; then if that is effective in him, it is well; and, if not, let her tie him with the edge of a cloth (head-band or fillet) and draw him lightly, strongly, with certain drawing together. But if that is not efficient, let forceps be employed (hand to hand) and let him be drawn out with them. If, indeed, that is not efficient, let him be drawn out with incision, after which it is done easily, and let it be managed by the rule of the dead fœtus.

This is a literal rendering of the Latin, which may be expressed in fair English thus:—

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[1] Canon Medicinæ, Lib. III. Fen. 21, Tract. 2, cap. 28, p. 932, edition of 1595, in 1 volume; "Junta Avicennæ."

It is necessary for the midwife (there were men-midwives in Arabia then) to discover the possible existence of this kind of (an inordinately large) fœtus; therefore let him (or her) exercise great skill in its gradual delivery; then if this is accomplished, well, and if not, let him (or her) bind it with a fillet and draw carefully and forcibly. If he (or she) does not succeed in this, let the forceps be applied, and let it be delivered by them. If this is not successful, he (or she) must deliver it with an incision, after which it may be done easily; and be governed, as (already explained) in the case of a dead fœtus.

We cannot put upon this paragraph of Avicenna the very liberal construction given to it by Smellie, in the historical introduction of his work upon midwifery. There is nothing in the language to indicate that the fillet is to be thrown around *the head;* the forceps applied to *it;* or *the head* opened and evacuated. *We infer* that the passage treats of a head case, from what the author has already written about, in this section, on midwifery. He has elsewhere treated of presentations of the feet and side, and has given directions for the management of cases having dropsy of the head, chest, and abdomen, and has repeatedly recommended the use of the knife upon the fœtus, for its delivery, when obstructed by its abnormal growth or position. We are to infer then, by negative evidence, that this paragraph treats of the management of the fœtus when presenting by the head, but obstructed in its passage through the pelvis, by reason of its disproportionate size as relating to the latter. The fœtus being of normal form, but too large to be delivered naturally, is to be assisted by the fillet; then by the forceps, if requiring more force; and, lastly, in the event of failure, to have its head *split* open, as already recommended in cases of extremity. What Avicenna wrote upon obstetrics was chiefly a compilation, and the sources from whence he drew, may be readily ascertained; but what he says of the forceps is original, and some have supposed that he contrived the instrument. Be this as it may, we have no evidence that the knowledge of it was ever general in Arabia, or its use long continued. If it ever was employed as the Chamberlens used it, the knowledge of its having been so used, must have died out centuries ago, strange as this may appear. We are disposed to be liberal towards Avicenna in our interpretation of what he has written, but we could wish that he had been so explicit in his language, as to leave no doubt as to his full meaning.

Although we must admit, that in all probability, the Arabians had the ability nearly nine hundred years ago to deliver a fœtus alive, by means of an instrument analogous to the forceps of the Chamberlens, this does not detract from the merit of the member of the family, who restored the lost art, without knowing of its pre-existence. At the present day, the secrecy and monopoly of the use of an instrument so important to human life, would be condemned as devoid of humanity; and the parties keeping the secret would be ostracized as the princes of charlatanry. But in the day of the Chamberlens such conduct was viewed differently, and the discoveries of a physician were regarded as his stock in trade, and were seldom published until age or independence diminished their personal value, or the necessity for concealment. Now everything is changed, and we would regard the seven Chamberlens, if living, as quacks, so long as they kept their process of delivery from the eye of the profession. Paul Chamberlen was for other reasons a charlatan; but all would be, if now living, and keeping their method a secret for the purpose of making money. Speaking of him, the thought occurs to me, that at the time of his death (1717) the secret was out, and that it must have become known at the time of, or soon after the death of John, in 1700. Possibly at his death, his forceps told the story to Chapman and his brethren, who so mysteriously came into the possession of the secret, and who acknowledged the possession of it, for some years, before they published its true character to the world. R. P. H.

ART. XVI.—*Guy's Hospital Reports.* Edited by H. G. HOWSE, M.D., and FREDERICK TAYLOR, M.D. Third Series, Vol. XXV. 8vo. pp. xviii., 531. London: J. & A. Churchill, 1881.

THE yearly volume of Guy's Reports is ever welcome to the library reading-table. This year's, like its predecessors, comes to us crowded with interesting and instructive materials. We very much miss in the present number many of the older Guy's names, and their absence seems to strike us this year more forcibly than before. In reading the various contributions one cannot fail to notice how strongly the older men have transmitted to their successors the same methods of work, the same mode of thought, as well as the same clearness in expression and teaching. This feature seems to us more noticeable in Guy's Reports than in any of the other London hospitals.

In the first article, which is *On Purpura Hæmorrhagica, accompanying the Growth of Multiple Sarcomata*, Dr. HILTON FAGGE gives the history of six cases, with five autopsies, in all of which multiple new formations were found in various parts of the body; in all of the cases purpuric spots occurred on the surfaces. Dr. Fagge remarks that among the various causes of a purpura attended with hemorrhage from the mucous surfaces there is one which seems to have been left almost unnoticed by writers. It is the rapid development of sarcomatous growths throughout the body generally.

From what he has seen, he says, of the "occasional difficulty of recognizing diffused sarcomatous infiltrations of the bones and periosteum in the dead subject, unless careful search is made for them, I feel some hesitation as to whether such disease may not have been really present in some of the few cases which have been set down, even after an autopsy, as examples of Werlhof's morbus maculosus."

Of the *origin* and *causes* of the development of the morbid conditions nothing satisfactory has been pointed out. In at least three of Dr. Fagge's cases the commencement of the disease was attributed by the patient to a chill or to getting wet through. In a fourth case, a cough was among the earliest of the symptoms, but it was probably due to early tubercular disease at the apex of each lung. In the other two cases no prodromal occurrence is noted. The author remarks, "I know that many pathologists would maintain that a neoplasm cannot possibly have its origin in such a cause (chill or wetting); but, for my own part, I must confess that I am not sure of it."

The duration of these cases is comparatively brief, varying from seven days to a few months, and in some of them the interval from the development of the serious symptoms to the fatal issue is strikingly short.